Setting up a Marine Aquarium

SeAquariums®

INTRODUCTION

Marine fish are, in our opinion, the most beautiful creatures on this planet. We are fortunate to be able to appreciate this beauty without fear of debilitating the reefs, thanks to an increasingly responsible sustainable marine trade, supplemented by captive-breeding programs. The latter is a subject close to our own hearts, having successfully reared the first Percula clown fishes in captivity in the UK in the 1970's. However, beauty comes at a price, these stunning creatures are more complex to keep in captivity than freshwater fish and so require investment in additional equipment….but we are confident we can help you achieve this with the **Waterlife** range.

BUYING YOUR AQUARIUM

Marine fish are more sensitive to changes in water chemistry and so require a larger aquarium. Ideally the smallest size you should consider is 100 litres (approx. 25 galls.), however the more space you can afford to give them, the better.

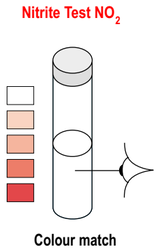
ASSEMBLY & SET-UP

There are many specialised filtration systems available to the marine hobbyist. Discuss the options with your aquatic retailer to choose the best pieces for your set-up. Place the tank on a strong, flat surface like an aquarium stand. N.B.You may need some polystyrene sheeting between tank and stand. Wash any coral sand / gravel thoroughly and place it on the bottom of the tank. Now fill the tank with seawater you have made using reverse osmosis (R.O.) water and **Waterlife's *Ultramarine* sea salt**. When filled, connect the filtration and start the water circulating. Connect the combined heater / thermostat(s) and leave the system running for six hours. Connect the lighting for the aquarium and leave this switched on continually until the filter-bed has matured. Now you can add the decorations. **NB.** Don't use rocks with metallic / highly coloured veins, as these may leach toxic chemicals into the aquarium.
Using a **Waterlife SeaDrometer,** adjust the specific gravity (S.G.), or salt level, of the seawater to 1.021 - 1.023 at 24 - 25°C (75 - 78°F) (depending on the native region of your intended livestock).

MATURING A FILTER SYSTEM

1. Add **Waterlife BioMature**, carefully following the instructions.

2. Use an **Ammonia and Nitrite Test Kit** daily. Within a few days of starting to add **BioMature,** the test sample will start to register ammonia and nitrite. When this reaches 5 - 10ppm on either kit, stop adding **BioMature**, as enough bacterial nutrients of all types have been provided.



3. Now add a seawater dose of **Waterlife's BacterLife**, which contains a blend of essential nitrifying and sludge digesting bacteria. Using **BacterLife** on daily basis will speed the rate of filter maturation.

4. Continue to test the ammonia and nitrite levels daily, until you get a zero reading. Now the system is almost bacterially mature. To ensure bacterial maturation is complete, carry out another test 24 hours later. If you still cannot detect ANY nitrites your system is ready to receive livestock.

5. From now on, only add **BacterLife** once a week to keep the filter stable. **DO NOT USE BIOMATURE once your system houses livestock.**

NB. It is important to use a Waterlife Nitrite Test Kit as it accurately records nitrite levels up to 20 ppm.

WAYS TO SPEED UP THE MATURATION PROCESS

1. High oxygen levels (i.e. fierce **SeaMist** - wooden airstone diffusion.
2. High turnover rate through the filter bed
3. Temperature of 24 / 25°C (76° / 78° F)
4. pH range of 8.1 - 8.3
5. Minimal organic matter in seawater, by using properly cured rock/shells and high grade, clean coral-sand.
6. An adequate depth of filtration media.

Test the water with a seawater pH test kit, before adding livestock to your system. This is essential, as the process of maturing the filter may have lowered the pH, as far as 7.7 - 7.9. You can rectify this by using **Waterlife's 8.3 Buffer.** If you are going to keep invertebrates, test for nitrates and adjust the nitrate level to zero again by partial water changes using R.O. water and ***Ultramarine*** sea salt.
Add **Carbon** (carbon sachet) to your filter. This is an efficient method of removing large molecule organics.


External canister filter

NB. De-gas carbon first with boiling water.

STOCKING THE MARINE AQUARIUM

Fish only system:
Create a wish-list using a good reference book and take it to your local marine shop and ask him to rule out any inappropriate species and re-arrange your list from the shy, delicate species, through to the more aggressive species. This is the order in which to purchase your fish, 1 or 2 every 2 - 3 weeks. **NB.** Don't exceed the stocking ratio of 2.5 cm (1 inch) of fish per 18 litres (4 gallons) of seawater in the first 12 months for fish / invertebrate aquaria. After this initial period, **never** exceed 2.5 cm (1 inch) of fish to 9 litres (2 gallons) of water in a fish only system.

Introducing new fish

1. Turn off the tank's lighting.
2. Take at least 30 mins. to acclimatise the new fish(es) to the tank water, floating the bag on the surface changing small amounts of bag-water for tank-water over this time.
3. Re-arrange the rocks after introducing the newcomer(s) or better still add new rocks to create new territory.
4. Carry out a light feed to distract attention from the newcomer(s).
5. Add a single dose of Waterlife's Cuprazin as disease preventative. **NB.** If the system will later contain invertebrates as well as fishes, use **Octozin not Cuprazin.** Use **Carbon** to remove 4 days after treatment.
6. Add a double dose of **BacterLife** to cope with the increased biological load.

Fish/Invertebrate community system

1. Introduce living rock and don't make any further additions for 2 weeks.
2. As with fish, don't overload your system, it should take several months to stock the tank.
3. Allow at least 20 mins. to acclimatise the invertebrates (as above).
4. Introduce the fish using exactly the same method as above, but remembering to :

a) Tell your dealer that you already have an invertebrate collection so he can eliminate certain fish
b) Use **Octozin** not **Cuprazin** for treatment.

CREATING FERTILE SEAWATER

If you want to create a complete sea aquarium (i.e. fishes - invertebrates and macro algae), sustain the fertility of the seawater using **Vitazin & SeaGreen**. Expanding plankton populations rapidly deplete the fertility of the seawater. Unless it is maintained, the seawater will quickly become infertile, plankton populations will decline and filter-feeders such as sponges, tunicates, the bivalve molluscs (e.g. Clams, scallops, etc), tubeworms, etc., will begin to die of starvation.
Add **SeaGreen** algal and phytoplankton fertilizing solution to the system at the same time as **BioMature** when maturing an invert aquaria. This does two things. Firstly, by promoting the development of green algae within the system, the maturing process is helped. Secondly, it generates large populations of unicellular phytoplankton, which form the base of the food chain in the sea and helps provide the principal food source for the many filter-feeding invertebrates.
Once you start to stock the aquarium with live corals, use **Waterlife's CoralFood** to supplement their diet. It is recommended that you switch off filtration for a short time whilst they feed or use a pipette to deliver the food close to the invertebrate.

WEEKLY CHECKS & MAINTENANCE

1. It is vital to test for **ammonia** and **nitrite** levels weekly using your **Waterlife** test kits, to ensure that your feeding regime isn't too generous. Sloppy feeding is one cause of high ammonia / nitrite.

2. It is equally important to use the **Waterlife Nitrate Test Kit** at least once a week. High levels of nitrate can stunt coral growth in a mixed system. Reduce nitrate by changing 25% of tank's water and replacing with R.O. water and **Ultramarine** sea salt.

3. pH testing will highlight falling pH. Healthy seawater should have a pH value of 8.1 - 8.3. This can be maintained by the addition of **8.3 Buffer.**

4. dKH is a measure of carbonate and bi-carbonate in water. Low levels of these compounds are another indication of an imminent pH collapse. Ideally reef levels should be maintained between 8° and 15 ° dKH with **8.3 Buffer**.

5. Ensure major seawater elements are maintained by regular partial water changes or with the use of supplements:
Calcium 400-450ppm; Magnesium 1300ppm; Strontium 8-10ppm.

6. Add **Waterlife's Seatrace with iodine** to replace losses caused by protein skimming, biological uptake, algae removal etc. Iodine also helps corals recover from bleaching, light shock, improving colour pigmentation and maintaining good growth.

Seawater creatures need certain elements for growth and repair and so remove them from the water. Therefore the number of inhabitants affects the rate of major depletion in the system.

MONTHLY CHECKS & MAINTENANCE

1. Top up evaporation losses with freshwater. Remember that salt does not evaporate - only water!

2. Partial water change between 10 - 25% of the water in your system. Never change more than 1/3 as the resulting pH shift will endanger the health of the entire aquarium. Small regular water changes using R.O. water to lower dissolved organics in the aquarium as well as keeping nitrate down. The ***Ultramarine*** 10kg pack is ideally suitable for small partial water changes.

3. All livestock in a marine system extract vital trace elements from ***Ultramarine*** seawater i.e. gold, silver, uranium, vanadium, strontium, boron, magnesium, molybdenum, phosphates, silicon, etc. Replace them with **Waterlife's SeaTrace.**

RECOGNISING AND DEALING WITH ILL HEALTH

Maintaining the water in your system to the highest quality by vigilant testing, will help you stave off ill-health, however diseases / infections / parasites can occur, with disastrous effects. The table opposite is a quick guide:

NB. DO NOT USE DISEASE TREATMENTS SIMULTANEOUSLY.

For further Waterlife guides go to:
http://www.waterlife.co.uk/charts-guides

We hope you have found this leaflet helpful and we wish you many years of successful marine keeping.

All the enclosed information is given to the best of our abilities and knowledge. However we cannot be held responsible for any losses or damages caused by misinterpretation or misunderstanding.

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Waterlife 50

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Symptoms	Cause	Treatment	Notes
1. Grey / white / patchy / slimy skin. Fish shows signs of irritation. Heavy respiration and loss of appetite.	Various parasites: *Brookynella, Chilodenella Cryptobia, Gyrodactylus Dactylogyrus,or Trichodina sp.*	**Cuprazin** and then followed by a course of **Sterazin**	Do not use Cuprazin in aquaria containing inverts, live-rock, macro-algae, Sharks, Rays or Harlequin Tuskfish. Use a hospital aquarium instead.
2. Fluffy growths on fins or body.	Fungus *Saprolegnia sp.*	**Cuprazin**	Do not use Cuprazin in aquaria containing inverts, live-rock, macro-algae, Sharks, Rays or Harlequin Tuskfish. Use a hospital aquarium instead. Use Vitazin to boost vitamins whilst treating
3. Upon careful inspection small white / yellow spots / coating can be seen on gill plates, fins & body.	Coral fish disease / velvet *Oodinium ocellatumon sp.*		
4. Small white spots on gills, body & fins. Multiplies very quickly. Fish irritation witnessed and heavy respiration in later stages.	Whitespot - *Crytocaryon irritans sp.*		
5. Holes in or around the head / gills. Loss of colour & weight, lethargic behaviour & production of mucus. May cause lateral line erosion. Mainly affects Angels & Tangs.	Hole-in-the-head - *Heximita or Spironucleus sp.*	**Octozin**	Safe with inverts. Avoid tablets falling on corals. Treat newly imported Angels & Clowns as a preventive measure. Use Vitazin as a support treatment.
6. White / grey mucus on fishes head or body. Often witnessed on newly imported Angels or clownfish.	Seawater Angel fish or clownfish disease.		
7. Inflammed gills, mucus and flicking. In later stages fish may appear lethargic, swimming near water flow.	*Gyrodactylus or Dactylogyrus sp.*	**Sterazin**	Do not use with seawater sharks , rays, crustaceans (crabs, shrimps etc.) or Echinoderms (starfish, urchins etc.). Symptom 8. may also be caused by internal bacteria (use Myxazin) or if fish has been cyanide caught.
8. Fish may appear very emaciated and may have hollow belly.	Internal worms.		
9. Erosion of fins making them appear ragged.	*Bacteria Pseudomonas* or *Aeromonas sp.* usually.	**Myxazin**	Check water quality. Severe bacterial symptoms which prove untreatable may be as a result of a parasite or a viral infection. Use Vitazin to boost vitamins whilst treating
10. Red streaked fins, Red sores, wounds or ulcers.	High levels of NH_4 / NO_2 or Bacteria *Vibrio* or *Pseudomonas sp.* usually.		
11. Grey / white film over surface of body.	Bacteria - *Flexibacter (Cytophaga)*		
12. Wool like growths around mouth leading to erosion.	Mouth Fungus *Flexibacter sp*		
13. Loss of weight although eating normally.	Internal bacteria - *Mycobacterium sp.*		
14. Cloudy Eye or swollen eye	Bacteria or secondary infection as a result of parasite or damage.		

SHOPPING LIST	PRICE
Tank / Stand	
Carbon	
Lights	
Sand / gravel	
Rocks / décor	
Skimmer	
Ozoniser	
Fluidised bed	
U.V. sterilizer	
Air pump	
Airline, non return valve & SeaMist air diffuser	
Ultramarine sea salt	
SeaDrometer - hydrometer	
BioMature - maturing fluid	
Ammonia Test Kit	
Nitrite Test Kit	
BacterLife - filtration bacteria	
Vitazin - vitamin supplement	
SeaTrace - trace elements	
Nitrate Test Kit	
Seawater pH Test Kit	
8.3 Buffer	
Calcium Magnesium Test Kit	
Calcium Magnesium Supplement	
Cuprazin - medication	
Sterazin - medication	
Octozin - medication	
Coral Food	
Myxazin - medication	
Total	

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